Fire

More than a Disturbance


National Park Service
Fire Monitoring Program
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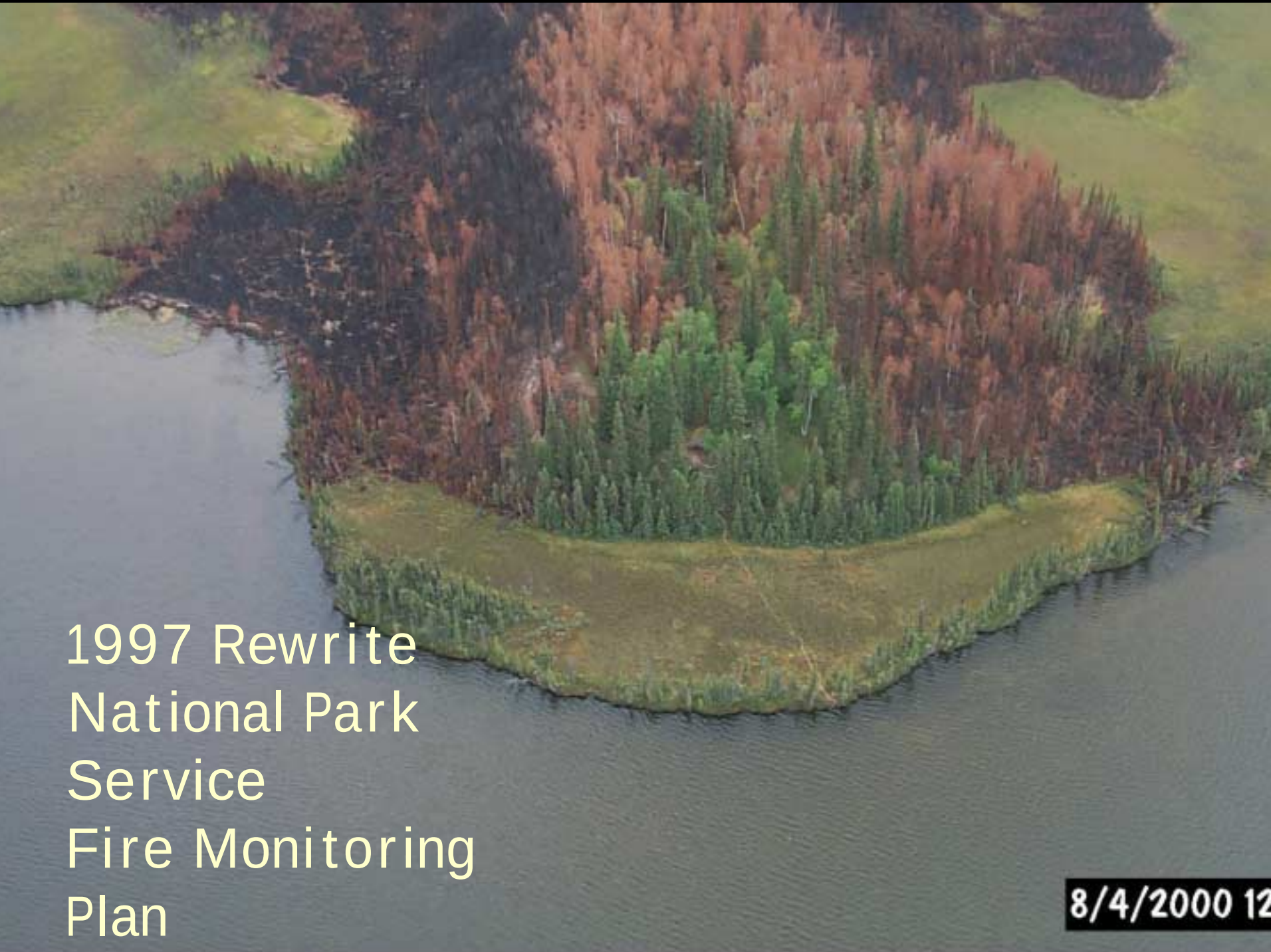
Regional Direction

- Development of Fire Monitoring Handbook(1992)
  - started in western region - tied to fire management plans and funding
- no monitoring- no money- no burn
- Prescribed Fires only.



1997 Rewrite National Park Service Fire Monitoring Plan

4 Monitoring levels

- Level 1 - Reconnaissance
  - Fire cause, location, size
  - Fuel and vegetation type
  - Potential for fire spread
  - Current and forecasted weather
  - Smoke volume and movement

Data is recorded on Individual fire reports

Level 2 - Fire Conditions

- It includes all variables in level 1
- based on reconnaissance there is potential for resources at risk or threatened
- adds specific descriptions in topography,
  - percent slope/ aspect
- weather,
  - temp/rh,
  - fuel moistures - live and time lag
  - drought index

Level 2 - Fire Conditions con't.

- Defining fuel models
- Rates of spread, perimeter area growth
- flame length's
- fire spread direction
- Smoke - visibility, transport and surface wind speeds and directions

Level 3, Immediate Post Fire Effects

Provides information of fuel reduction and vegetative change in a specific vegetation and fuel complex, and on other variables dependent on management objectives.

Quantitative evaluation of whether objectives were met.

Monitoring before, during and post fire.

Level 3 specifics

- Tree layer - density and diameter by species
- Dead and down fuel loads
- Brush and herbaceous Layer
  - number of hits by species
  - relative cover by species
  - number and % of non- native species
  - number and % of native species

Level 3, con't.

- Brush age and density by species
- Post burn condition
  - average scorch height
  - % crown scorched
  - burn severity
- Optional - overstory trees, pole size and seedlings

Level 4 - Long-term change

- Requires collecting information on trends, change over time in a managed ecosystem.
- Once change is detected, a research program or appropriate management response can be implemented.

(Beginning to sound a lot like LTEM)

What we've done in Alaska.

- Lots of Level 1 and 2 monitoring of fires.
- Paired plot
  - 1982 -1985, 9 parks sampled
  - objective look at successional changes
  - Where's the data?
- Ground truthing and fuels inventories
- Installed 14 RAWS stations

What we've done in Alaska con't.

- Hired full time fire managers in the Parks.
- Fuel Moisture sampling - validation
- Fire History mapping
- Historical weather collection
- Cultural site identification and protection


8/4/2000

What we've done in Alaska con't.

- Part of the Alaska Fire Effects Monitoring committee.
  - yearly workshops

Where are we heading…..

- Continue level 1 and 2 monitoring.
- Hire a Regional Fire Ecologist
  - Establish a program
  - Begin level 3 and 4 monitoring
- Convert vegetation map into fuels map to begin using fire projection models
  - Outputs used for fire effects data on
    - heat, intensities

Where are we heading con't.

- Work under the umbrella of the Long Term Ecological Monitoring program to develop protocols for Level 4 monitoring.
- Large-scale satellite imagery for fire severity classification.

Nationally

- National Fire Ecologist
- Alaska representation on the national level steering committee for Monitoring
- National connection with I&M and developing a relationship with fire management.

The End?

Or the Beginning?